

GAO

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Report to Congressional Requesters

February 1997

# MILITARY BASES

## Mission Transfers Affecting Ellsworth Air Force Base



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National Security and  
International Affairs Division

B-275750

February 24, 1997

Senator Thomas A. Daschle  
Senator Tim Johnson  
United States Senate

As you requested, we examined the costs and benefits of several B-1B aircraft mission transfers affecting the Ellsworth Air Force Base (AFB) located in South Dakota. Specifically, this report addresses the (1) extent to which the Air Force analyzed the costs and benefits of the proposed jet engine intermediate maintenance consolidation at Dyess AFB, Texas; (2) costs and benefits of transferring the Route Integration Instrumentation System (RIIS) from Ellsworth to Nellis AFB, Nevada; and (3) reasons for and cost of constructing facilities for housing B-1B aircraft at the Robins AFB in Georgia. The B-1B unit that is moving to Robins AFB was previously located at Dobbins AFB and was activated in fiscal year 1996 when a F-15 unit was deactivated at that base.<sup>1</sup>

## Results in Brief

The Air Force's mid-1995 preliminary analysis showed that consolidating B-1B engine intermediate maintenance at Dyess AFB could result in savings. However, this analysis was based primarily on discussions among maintenance personnel. It did not include certain factors that could reduce the savings because several important decisions, such as the extent that back-up capabilities would need to be retained at other bases, were not made until later in calendar year 1995. Moreover, a cost/benefit analysis, including estimated workload distribution, and one-time construction, moving, and set-up costs, was not conducted. Such an analysis, using updated data, is needed to assess whether the consolidation would in fact save money and result in operating efficiencies.

Our analysis of Air Force data showed that transferring the RIIS, a computer-based system for assessing flight crew training missions, to Nellis AFB from Ellsworth, should result in annual savings of about \$262,000, primarily by reducing staff requirements. No significant military construction is presently needed or planned for the transfer; however, some modifications may be necessary to meet security requirements. If projected savings are accurate and estimated one-time transfer costs do

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<sup>1</sup>The Air Force is realigning, converting, and/or deactivating some units in response to a declining defense budget and changes in force structure needs. Within the Air National Guard, the six fighter wing allocation required converting or closing one of the four F-15 units. Converting units from F-15s to B-1Bs, rather than closure, minimizes the impact of force reductions, according to the Air Force.

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not increase substantially, transfer costs will be recovered in less than 3 years.

The National Guard provided several reasons for its decision to relocate a newly established B-1B unit from Dobbins AFB to Robins AFB. According to the National Guard, moving the B-1B unit to Robins minimized personnel dislocations, avoided costly runway repairs, provided diversified training routes, and permitted collocating the B-1Bs with supporting tankers. Other existing B-1B bases, including Dyess, Ellsworth, and McConnell, were briefly considered for the B1-B unit. To put B-1B aircraft at an existing B-1B base, however, would have required activating an additional National Guard unit, while at the same time deactivating a unit. The National Guard estimates construction costs for the B-1B wing at Robins will total about \$99.5 million. Construction started in October 1996 and is scheduled to be completed in 2001.

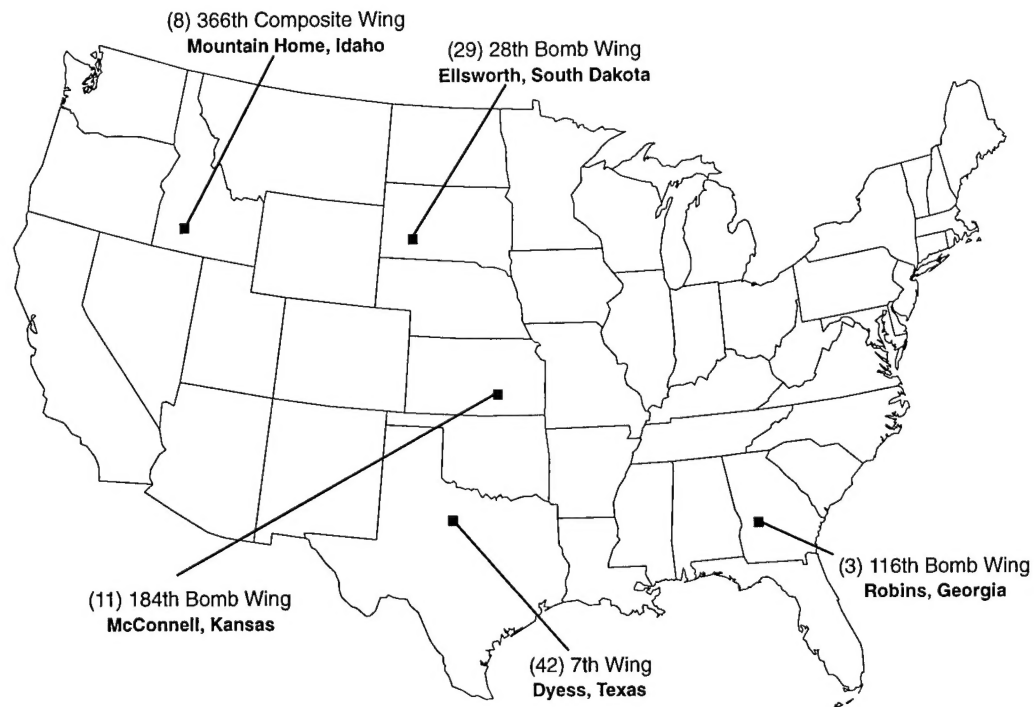
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## Background

B-1B units, with a total of 93 aircraft, are deployed at 5 bases in the continental United States.<sup>2</sup> Figure 1 shows the location of units and the number of aircraft in them as of August 14, 1996.

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<sup>2</sup>The report *Air Force Bombers: Options to Retire or Restructure the Force Would Reduce Planned Spending* (GAO/NSIAD-96-192, Sept. 30, 1996) provides more information on DOD's bomber force requirements and options for reducing spending on bombers.

**Figure 1: Number of Aircraft Assigned to Each B-1B Unit as of August 1996**

Source: Air Combat Command.

RIS is a data collection system used to provide feedback to air crews on their performance during flight training. Data collected from training locations around the country are transmitted to a central computer and processed into a video format. This video is then transmitted to the air crew's home base, where it is used to brief crew members on the results of their training.

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Because the units at McConnell and Robins are National Guard units, the National Guard Bureau and the Air Force's Air Combat Command (ACC) share responsibility for organizing, equipping, maintaining, and training them.

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## Need to Conduct Cost/Benefit Analysis of Intermediate Maintenance Consolidation Using Updated Data

There are three levels of B-1B engine maintenance: organizational, intermediate, and depot. Organizational and intermediate maintenance are performed at each base. Generally, organizational maintenance includes preventive maintenance and minor repairs that do not require engine removal. Intermediate maintenance includes scheduled maintenance and major repairs that generally cannot be completed without removing the engine from the aircraft. Depot maintenance, which overhauls engines to a like-new condition, is performed by the Air Logistics Center at Tinker AFB, Oklahoma.

In mid-1995, ACC led a team that performed preliminary analysis of the benefits of consolidating B-1B engine intermediate maintenance activities. The analysis indicated that consolidation could reduce the total number of personnel authorized for intermediate maintenance units by 24: 14 active duty positions and 10 National Guard positions. On the basis of fiscal year 1996 personnel authorizations, intermediate maintenance units would be reduced from 190 to 166 positions. The ACC maintenance official who conducted the study stated, however, that the analysis was based on discussions among engine maintenance personnel and not on a logistics composite model (LCOM)<sup>3</sup> or formal manpower analysis of the workload to be performed at each base.

In late 1995, the Secretary of the Air Force instructed ACC to consolidate B-1B jet engine intermediate maintenance activities at Dyess AFB. However, in implementing the Secretary's decision, the maintenance official stated that ACC would retain limited intermediate maintenance capabilities at Ellsworth and Robins AFBs and a full intermediate maintenance capability at McConnell AFB. According to the same official, the limited capabilities at Ellsworth and Robins are needed to perform intermediate maintenance activities that can be completed quickly, thereby limiting the amount of time aircraft will be inoperable while engines are in transit. Further, the full capability at McConnell is needed to

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<sup>3</sup>The LCOM model used determines manpower requirements for B-1B jet engine intermediate maintenance units using factors such as programmed flying hours, historical data on engine failures, and maintenance tasks performed by the unit. Additional positions may be authorized for supervisors and any maintenance that is not included in the flying-hour program.



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provide a back-up facility in the event that operations at the consolidated facility are impaired.

The ACC maintenance official stated in September 1996 that ACC had not prepared a comprehensive cost/benefits analysis to support the decision to establish a consolidated facility at Dyess. He stated that ACC had not yet developed comprehensive estimates of the one-time costs of consolidation, including the costs of constructing facilities and moving personnel and equipment to Dyess. For example, ACC had not completed its analysis of support equipment requirements for the consolidated facility. In addition, a recent LCOM analysis indicates that savings may be less than indicated by the preliminary analysis. According to the ACC maintenance official, the LCOM analysis indicates that consolidation will reduce total active duty maintenance personnel requirements by only about five positions. He added that ACC had not yet obtained updated information on potential National Guard staffing reductions at Robins.

In October 1996, the Air Force indicated that the consolidated facility at Dyess AFB should be operational in January 1998, pending completion of a major B-1B engine upgrade. Completing a more comprehensive cost and benefits analysis prior to the consolidation could ensure that savings and operating efficiencies would result from the consolidation.

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## RIIS Transfer Will Likely Be Cost Effective

Before September 1996, the RIIS unit was located at Ellsworth AFB and reported to a range support headquarters unit located at Nellis AFB. In September 1996, the RIIS unit was relocated from Ellsworth to Nellis AFB.

Table 1 shows that direct RIIS operating costs at Nellis are projected to be about \$262,000 less per year, in fiscal year 1997 dollars, than at Ellsworth. As shown, annual contractor support costs at Nellis are expected to be over \$208,000 more than at Ellsworth; however, combined military and civilian personnel costs at Nellis are expected to be almost \$470,000 less than at Ellsworth. We did not analyze indirect costs, such as family housing and base support costs. Air Force officials stated these costs would be similar at both bases.

**Table 1: Direct RIIS Annual Operating Costs at Ellsworth Compared With Nellis (1997 dollars)**

<b>Cost category</b>	<b>Ellsworth</b>	<b>Nellis</b>	<b>Difference</b>
Personnel			
Military	\$1,042,967	\$675,172	\$367,795
Civilian	152,835	50,945	101,890
<b>Subtotal</b>	<b>1,195,802</b>	<b>726,117</b>	<b>469,685</b>
Contractors	1,590,551	1,799,338	(208,787)
Other operation and maintenance	30,662	30,000	662
<b>Total costs</b>	<b>\$2,817,015</b>	<b>\$2,555,455</b>	<b>\$261,560</b>

Source: ACC.

The lower personnel costs at Nellis are due to a reduction of nine positions in the RIIS unit's personnel authorization. The RIIS unit at Ellsworth was authorized 26 positions (23 military and 3 civilian), while the unit at Nellis is authorized only 17 (16 military and 1 civilian). ACC and RIIS officials explained that the consolidation of range support missions at Nellis allowed them to eliminate several management and support positions.

ACC and RIIS officials stated that the one-time costs of moving the RIIS unit from Ellsworth and setting it up at Nellis will be less than \$600,000. The largest portion of the costs are related to contractor modifications, training of personnel, and setup of the RIIS unit to make it operational. Equipment moving costs, relocation costs for military personnel, and room renovation costs to make the RIIS operational make up 25 percent of the costs.

Nellis was able to keep transfer costs for the RIIS near \$600,000 by housing the equipment in an existing building that did not need extensive modifications to make it operational and ensure its security. No significant military construction is presently needed or planned for the RIIS operations; however, some building modifications may be necessary to meet security requirements. From our observations of the RIIS unit at Nellis and discussions with RIIS personnel, this arrangement appeared reasonable.

If projected savings at Nellis are accurate and estimated one-time transfer costs do not increase substantially, transfer costs will be recovered in less than 3 years.

## Military Construction at Robins AFB

During the Cold War, heavy bombers were used primarily for nuclear deterrence and were operated solely by the active duty Air Force. According to the Air Force, the National Guard's part-time workforce was incompatible with the bombers' nuclear mission because of a requirement for continuously monitoring all personnel directly involved with nuclear weapons. With the end of the Cold War and increased emphasis on the bombers' conventional mission, the Air Force initiated efforts to integrate Guard and reserve units into the bomber force.

As part of its total force policy, the Air Force assigned B-1B aircraft to the National Guard. Since the National Guard needed to deactivate an F-15 fighter unit, it decided to convert the F-15 wing at Dobbins AFB to B-1B aircraft. In addition, the unit was moved to Robins AFB because, according to National Guard Bureau officials, the runway at Dobbins was too short for B-1Bs and there were environmental issues at Dobbins, such as noise restrictions in the Atlanta area. Planning for the move started in 1992.

In September 1993, a component of the National Guard Bureau issued a written cost/benefits analysis for relocating the 116th Fighter Wing from Dobbins to Robins. The objective of the analysis was to capture the one-time and recurring costs of the move and to evaluate alternative construction options at Robins.

A National Guard official stated that there was no written analysis assessing the costs and benefits of locating the 116th to another Air National Guard F-15 base or an existing B-1B base. He stated that the other National Guard F-15 units were located at New Orleans, Hawaii, and St. Louis, and did not have suitable facilities for B-1Bs. Converting the 116th Fighter Wing at Dobbins to B-1Bs and moving it to Robins minimized personnel dislocations, avoided costly runway repairs, provided diversified training routes, and permitted collocating the B-1Bs with supporting tankers, according to the Air Force.

The National Guard official stated that Dyess, Ellsworth, and McConnell AFBs were briefly considered for the B-1B unit, but added that those bases were located in states that did not have National Guard F-15 units. To put B-1Bs at an existing B-1B base would have required activating an additional National Guard unit, while at the same time, deactivating a unit. They added that this would not have been consistent with the Guard's policy of minimizing force reductions and that decisions to activate or deactivate National Guard units are politically sensitive. In fiscal year 1996, the 116th Fighter Wing at Dobbins AFB converted from F-15s to



B-1B aircraft and started the move to Robins AFB. According to National Guard officials, about 90 percent of the personnel have moved and are staying in temporary quarters on Robins. About 95 percent of the vacant full-time positions have been advertised. The ground breaking ceremony for construction of new facilities occurred in October 1996. The National Guard Bureau estimates that military construction costs at Robins for the wing will total about \$99.5 million as described in table 2. Construction is scheduled to be completed in 2001.

**Table 2: Estimated Military Construction Costs for the 116th Fighter Wing at Robins AFB**

Dollars in millions	
Description of work	Estimated costs
Operations, command, training, personnel support, medical, dining, and civil engineer facilities	\$21.4
Munitions storage and training facilities	17.1
Composite aircraft maintenance complex, fuel cell, power check pad, sound suppressor to support engine testing, and corrosion control hangers with shops	13.9
Site work, utilities, primary roads and parking lots, and miscellaneous structures	12.3
Consolidated aircraft and hydrant refueling system, aircraft hydrant systems, and fuel storage	9.4
Aircraft parking aprons and taxiways	8.8
Hanger bay and shops	8.4
Other	8.2
<b>Total</b>	<b>\$99.5</b>

Source: ACC.

Regarding your interest about the capacity of these bases to receive the aircraft, an ACC official stated that it is uncertain whether existing facilities at Dyess and McConnell could accommodate the B-1B aircraft that were assigned to Robins. He also stated, however, that over \$100 million was invested in the 1980s at Ellsworth and that Ellsworth might have had adequate facilities for the additional aircraft with only limited renovation. However, as stated previously, these bases did not have National Guard F-15 units. Therefore, putting B-1Bs at an existing B-1B base requires activating an additional National Guard unit, while at the same time, deactivating a unit.

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## Recommendation

We recommend that the Secretary of the Air Force conduct a comprehensive cost/benefits analysis to ensure that savings and operating efficiencies will result from the consolidation of jet engine intermediate maintenance at Dyess.

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## Agency Comments and Our Evaluation

A draft of this report was provided to the Department of Defense (DOD) and agency comments were requested. DOD and Air Force officials provided oral comments. DOD and Air Force officials agreed with the facts presented in the report. They did not agree, however, with the recommendation to the Air Force to conduct a comprehensive cost/benefits analysis of the consolidation of jet engine intermediate maintenance at Dyess to ensure that savings and operating efficiencies will result. The officials stated that the Air Force believes it has already done sufficient analysis to support the consolidation decision. According to the officials, Dyess is the logical choice because (1) the majority of the B-1B force structure is currently located there, (2) the capability is sufficient to handle the additional workload, and (3) it supports the Air Force goal of moving toward lean logistics and two (rather than three) levels of maintenance. Furthermore, the operation and mission would not be significantly affected by the consolidation.

As stated in this report, however, the analysis supporting the decision did not include certain factors that could impact the decision. This analysis was based primarily on discussions among maintenance personnel and did not include factors, such as the need to retain back-up capabilities and retain limited intermediate capabilities at other bases. Therefore, we continue to believe that a comprehensive cost/benefit analysis of the consolidation is needed to assess whether the consolidation will save money and result in operating efficiencies. This study should also include the points raised by the Air Force in commenting on this report.

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## Scope and Methodology

We reviewed reports and documents relevant to B-1B mission transfers affecting Ellsworth AFB. We also interviewed officials from Air Force Headquarters, ACC, the National Guard Bureau, and range support units at Nellis AFB.

To estimate operating costs for RIIS, we used average 1997 military and civilian personnel costs, including all basic benefits, provided by the Air Force. We obtained personnel authorizations from unit manning

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documents and obtained operation and maintenance costs from financial reports and other records provided by ACC.

Our review of the RIIS operations at Ellsworth AFB and Nellis AFB focused on identifying the major operating costs at each location and the one-time costs to transfer the operations. We concentrated on personnel and operation and maintenance costs as the primary components of operating costs. We discussed the basis and accuracy of the data with Air Force officials; however, we did not independently determine the reliability of the information. In addition, we observed RIIS operations at Nellis AFB and discussed the RIIS construction requirements with RIIS operations and base security officials.

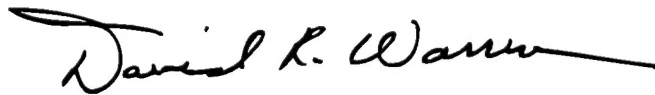
We obtained information on the cost of and rationale for locating the B-1B wing at Robins from the National Guard Bureau. We also examined military construction project data sheets and discussed construction requirements with an ACC official.

We performed our work between August and November 1996 in accordance with generally accepted government auditing standards.

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We are sending copies of this report to the Secretaries of Defense and the Air Force, interested congressional committees, and other parties. Copies will also be made available to others on request.

If you have any questions concerning this report, please call me at (202) 512-8412. Major contributors to this report are listed in appendix I.

A handwritten signature in black ink, reading "David R. Warren". The signature is fluid and cursive, with a long horizontal line extending from the end.

David R. Warren, Director  
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